

Amendments to the Claims:

Claims 1-3, 9-11, and 14-21 are currently pending. Claims 1, 3, 9, 14, 17, and 19 have been amended. Claims 4-8 and 12-13 were previously canceled. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended): A matching network that can be coupled between an ac power source and a load to reduce ac energy reflected from said load, said matching network comprising:

(a) a first transmission line that can be coupled to said ac power source; and
(b) a second transmission line inductively coupled to said first transmission line, wherein said first and second transmission lines are inductively coupled for an inductive length, said inductive length being at least one wavelength of ac energy supplied by said ac power source, wherein said second transmission line can be coupled to said load to deliver ac energy from said first transmission line to said load, and wherein said first and second transmission lines within said inductive length are a substantially fixed distance apart and are bent to reduce their overall dimension; and

(c) an insulator having first and second holes formed therein, wherein the first transmission line is disposed in the first hole and the second transmission line is disposed in the second hole, and wherein the insulator is bent substantially similar to the first transmission line and the second transmission line.

2. (Original): The matching network of claim 1 wherein said inductive length is at least 0.75 meters.

3. (Currently Amended): The matching network of claim 1 further comprising:
[[(c)]] (d) a trimming element coupled to said first transmission line and coupled to ground.

4. - 8. (Canceled)

9. (Currently Amended): A method for minimizing reflected ac power from a plasma formed in a substrate processing chamber, said method comprising:

coupling an ac power source generating ac energy of a specified wavelength to said plasma in said substrate processing chamber;

coupling a matching network between said ac power source and said plasma, said matching network comprising:

a first transmission line and a second transmission line, wherein said first and second transmission lines are inductively coupled over an inductive length, said inductive length being at least one of said specified wavelength, and wherein said first and second transmission lines within said inductive length are a substantially fixed distance apart and are bent to reduce their overall dimension, and

an insulator having first and second holes formed therein, wherein the first transmission line is disposed in the first hole and the second transmission line is disposed in the second hole, and wherein the insulator is bent substantially similar to the first transmission line and the second transmission line.

10. (Original): The method of claim 9 wherein said first transmission line receives ac energy from said ac power source, said second transmission line inductively receives ac energy from said first transmission line, and said second transmission line delivers ac energy to said plasma.

11. (Original) The method of claim 9 wherein said first and second transmission lines within said inductive length are parallel.

12. - 13. (Canceled)

14. (Currently Amended): A method for minimizing reflected ac power from a plasma formed in a substrate processing chamber, said method comprising:

generating an ac power signal having a specified wavelength and transmitting said signal to a first transmission line that is inductively coupled to a second transmission line over an inductive length, wherein said inductive length is at least one of said specified wavelength, and wherein said first and second transmission lines within said inductive length are a substantially fixed distance apart and are bent to reduce their overall dimension, and wherein the first transmission line is disposed in a first hole formed in an insulator and the second transmission line is disposed in a second hole formed in an insulator, and wherein the insulator is bent substantially similar to the first transmission line and the second transmission line; and

transmitting said ac power signal from said second transmission line to a substrate processing chamber.

15. (Original): The method of claim 14 wherein said ac power signal has a frequency range of operation between 100 KHz to 2.45 GHz and said inductive length is between 3000 and 0.12 meters.

16. (Original): The method of claim 14 wherein said ac power signal has a frequency between 350 KHz and 400 MHz and said inductive length is between 857 meters and 0.75 meters.

17. (Currently Amended): An energy delivery system comprising:
an ac power source capable of generating an ac signal of at least 100 KHz;
a matching network having i) a first transmission line that can be coupled to said ac power source, ii) a second transmission line inductively coupled to said first transmission line, wherein said first and second transmission lines are inductively coupled for an inductive length, said inductive length being at least one wavelength of ac energy supplied by said ac power source, and said inductive length being at least 0.75 meters, and wherein said first and second transmission lines within said inductive length are a substantially fixed distance apart and are bent to reduce their overall dimension, and iii) an insulator having first and second holes formed therein, wherein the first transmission line is disposed in the first hole and the second

transmission line is disposed in the second hole, and wherein the insulator is bent substantially similar to the first transmission line and the second transmission line; and
a load coupled to said second transmission line.

18. (Original): The matching network of claim 17 wherein said ac power source is an RF generator and said load is a plasma.

19. (Currently Amended): A substrate processing system comprising:
(a) an RF generator;
(b) a substrate processing chamber; and
(c) a matching network having i) a first and a second transmission line, said first transmission line being coupled to said RF generator; said second transmission line being coupled to said substrate processing chamber, wherein said first and second transmission lines are inductively coupled over an inductive length, said inductive length being at least one wavelength of ac energy supplied by said RF generator, and wherein said first and second transmission lines within said inductive length are an approximately fixed distance apart and are bent to reduce their overall dimension, and ii) an insulator having first and second holes formed therein, wherein the first transmission line is disposed in the first hole and the second transmission line is disposed in the second hole, and wherein the insulator is bent substantially similar to the first transmission line and the second transmission line.

20. (Previously Presented): The matching network of claim 1, wherein the first and second transmission lines are bent to reduce their overall dimension to approximately a meter or less along any direction.

21. (Previously Presented): The matching network of claim 1, wherein the first and second transmission lines are bent in a spiral to reduce their overall dimension.